## What is claimed is:

0460 \ 1. A method of processing an image, comprising:

determining characteristics of a plurality of image processing elements at a time of a specified image processing result; and

establishing a subsequent calculation as being complete when said characteristics exist in a subsequent calculation.

- 2. A method as in claim 1 wherein said characteristics include sign bits of said image processing elements.
- 3. A method as in claim 2 wherein said image processing units are sum of absolute difference units.
- 4. A method as in claim 1 wherein said characteristics comprise states of groups of said image processing elements.
- 5. A method as in claim 4 wherein said characteristics comprise states of groups of said image processing elements.

6. A method of calculating a relationship between two images, comprising:

obtaining images;

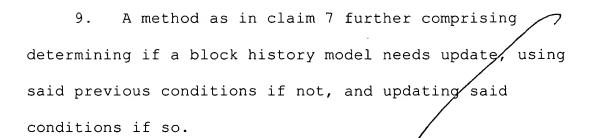
monitoring matching characteristics between a source image and a search image at a first time, to determine a minimum distortion between said images;

determining conditions of a plurality of calculating units at a first time when minimum distortion between said images is found;

at a subsequent time, monitoring said conditions, and determining if states of said calculating units is the same as said states found at said first time; and

establishing a minimum distortion based on said states being the same.

- 7. A method as in claim 6 wherein said conditions comprise sign bits of accumulating units.
- 8. A method as in claim 7 further comprising a combinatorial logic unit which detects sign bits of the accumulating units.



- 10. A method as in claim 6, wherein said obtaining uses a video camera.
- 11. A method as in claim 9, wherein said determining comprises determining if a specified time has elapsed since a previous update.
- 12. A method as in claim 6, wherein said states include groupings of states representing specified characteristics.
  - 13. A method, comprising:

determining a plurality of different states of different calculating units;

determining, from said states, groupings of possible states, which groupings represent different probabilistic conditions of the images;

determining a first state at a first time at which a calculation indicates minimum distortion between two images; and

using said first state to indicate an early exit from calculation at a second time.

- 14. A method as in claim 13, wherein said using comprises determining if a current state is the same as said first state.
- 15. A method as in claim 13, wherein said groupings comprise groupings of sign bits of said calculating units.
- 16. A method as in claim 13, further comprising using said calculating to determine information for an MPEG coding.
  - 17/ An apparatus, comprising:
  - plurality of image processing elements;
- a circuit that stores first states of said image processing elements at a time of a specified image
- processing result; and

an early exit circuit that determines a completion/of a calculation based on comparing current states with said

- 18. An apparatus as in claim 17, wherein said characteristics include arithmetic states  $\phi$ f said image processing elements.
- 19. An apparatus as in claim 1,6, wherein said image processing elements include accumy/lators therein, and said characteristics include sign bits of said accumulators.
- An apparatus as in claim 17, further comprising a 20. video obtaining element.
- An apparatus as in claim 20, wherein said video 21. obtaining element is a video camera.
- An apparatus as in claim 17, wherein said characteristics comprise states of groups of said image processing elements.